By Stefan A. Science Editor

The Chinese Stone Forest

How did it form?

The most spectacular calcareous relief in the world could be considered the Chinese Stone Forest. The Stone Forest National Park of Shilin-Lunan (Yunnan) is located in the Lunan Yu Autonomous County, 126 km (79 mi) southeast of Kunming, at altitudes of 1,700-2,000 m. It has an area of over 340 square km (135 square mi) but, together with the forests and localities, the surface of the National Park goes to 400 square km (160 square mi). 200 square km are reservation of first degree. The local minorities living around the park are Miao and Yi. Similar phenomena can be encountered in France, Spain, Australia, Papua-New Guinea, Mexico, Brazil and Sarawak, but at a much smaller scale, the sum of all being less than one quarter of the surface of the Stone Forest of Yunnan. The stones in the rock labyrinth got various shapes, from columns to posts, moving stones, mushrooms, towers, pyramids, corridors, antropomorph and zoomorph shapes, isolated or in groups. Many of the rocks pop up from lake beds. Many stones received local names: "Phoenix bird adjusting its feathers", "rhinoceroses watching the moon", "Ashma" (the name of a legendary hero of the local ethnic group, Yi), "monkey on the elephant back", "mother and son", "the teeth of the dragon", "the Great Mogul" and others. Many columns are collapsed due to the earthquakes. The columns can be up to 30-40 m (100-133 ft) tall. The Stone Forest is a typical karst formation, carved in a vast stretch of limestone sediment formed on a seafloor, 270 million years ago. The limestone going out of the sea was cracked on large surfaces. The web of rectangular cracks eased the advance of surface waters, coming from abundant rainfall, to exert a vast action of dissolving and washing along them, forming first grooves whose dimensions, in time, grew up to meters. In time, the grooves formed a lapis field. The lapis stones deepened, forming prismatic columns which detached from the calcareous mass. [img=2]About 200 million years ago, various fantastic stone forms emerged, such as peaks, pillars, corridors, towers, pyramids and stalagmites, like a vast forest of stone. Then, 250 Ma ago, volcanic eruptions covered the calcareous formations, protecting them against the action of rains, rivers and vegetation. When, in time, erosion carved the volcanic rocks, revealing again the limestone columns, the new columns were thinner and cracked in some places. In Eocene, 55 Ma ago, the columns were covered by the waters of a deep lake, which deposed red sediments. In Quaternary, the lake was filled by sediments and the surface waters revealed the rocks with the aspect of prismatic columns. In places where erosion started earlier, the columns got sharper and thinner, with the pyramid shape. The formation of the Stone Forest is very humid, but the shadow allows relatively few plants, especially large ferns and vines, to grow there.